



Dynamic Search: INPADOC/Family and Legal Status, JAPIO - Patent Abstracts of Japan, Derwent World Patents Index

Records for: PN=JP 11012400

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1. 2/34/1 (Item 1 from file: 351)

012342554

WPI Acc No: 1999-148661/ 199913

Polypropylene@ composition used for metallising films and nonwoven fabrics - comprises polypropylene, which is prepared by polymerisation using single site catalyst, and fluorine polymer-containing lubricant

Patent Assignee: MITSUI PETROCHEM IND CO LTD (MITC)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	week
JP 11012400	A	19990119	JP 97164330	A	19970620	199913 B

Priority Applications (No Type Date): JP 97164330 A 19970620

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 11012400	A		5	C08L-023/10	

Abstract (Basic): JP 11012400 A

A polypropylene compsn. (X) comprises: (A) a polypropylene which is prepared by polymerisation using a single site catalyst and has a melt flow rate (MFR) of 0.1-100 g/10 min; and (B) a fluorine polymer-containing lubricant, having a content of fluorine polymer of 0.0001-0.1 wt. % of (A).

USE - (X) is used for metallising films or nonwoven fabrics.

ADVANTAGE - Extrusion moulded parts of (X) have a good appearance.
Dwg.0/0

Derwent Class: A17; F01

International Patent Class (Main): C08L-023/10

International Patent Class (Additional): C08K-003/24; C08K-003/26;

C08K-003/34; C08K-003/36; D01F-006/06; D04H-003/00; D04H-003/16;

C08L-023/10; C08L-027-12; C08L-027-16

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2. 2/34/2 (Item 2 from file: 347)

06070889 POLYPROPYLENE COMPOSITION

Pub. No.: 11-012400 A]

Published: January 19, 1999 (19990119)

Inventor: CHOKAI MICHIO

Applicant: MITSUI CHEM INC

Application No.: 09-164330 [JP 97164330]

Filed: June 20, 1997 (19970620)

International Class: C08L-023/10; C08K-003/24; C08K-003/26; C08K-003/34; C08K-003/36; D01F-006/06; D04H-003/00; D04H-003/16; C08L-023/10 , C08L 27:12), (C08L 23/10 , C08L 27:16)

ABSTRACT

PROBLEM TO BE SOLVED: To obtain the subject composition capable of preventing the defective appearance of molded products, such as surface roughness, irregular thickness and white stains, and useful for metal-deposited films, nonwoven fabrics, etc., by including a specific polypropylene and a specific lubricant in specific amounts, respectively.

SOLUTION: This propylene composition comprises (A) polypropylene obtained by a polymerization method using a single site catalyst (concretely a metallocene catalyst, a Brookhart catalyst) and having a melt-flow rate of 0.1-100 g/10 min, preferably 0.1-30 g/10 min, and (B) a lubricant containing (B1) a fluoropolymer (e.g. a lubricant comprising 50-100 wt.% of a fluorinated vinylidene-hexafluoropropylene copolymer, 0-10 wt.% of talc, 0-15 wt.% of calcium carbonate, 0-10 wt.% of silicon dioxide, and 0-10 wt.% of barium sulfate). The component B is contained in an amount of 0.0001-0.1% converted into the amount of the component B1.

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☐ 3. 2/34/3 (Item 3. from file: 345)

14960649

Basic Patent (No,Kind,Date): JP 11012400 A2 19990119

PATENT FAMILY:

JAPAN (JP)

Patent (No,Kind,Date): JP 11012400 A2 19990119

POLYPROPYLENE COMPOSITION (English)

Patent Assignee: MITSUI CHEMICALS INC

Author (Inventor): CHOKAI MICHIO
Priority (No,Kind,Date): JP 97164330 A 19970620
Applic (No,Kind,Date): JP 97164330 A 19970620
IPC: * C08L-023/10; C08K-003/24; C08K-003/26; C08K-003/34; C08K-003/36
; D01F-006/06; D04H-003/00; D04H-003/16; C08L-027-12; C08L-027-16
CA Abstract No: * 130(12)154443M; 130(12)154443M
Derwent WPI Acc No: * C 99-148661; C 99-148661
Language of Document: Japanese

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Search Results - Record(s) 1 through 9 of 9 returned.☒ 1. Document ID: US 5840644 A

L1: Entry 1 of 9

File: USPT

Nov 24, 1998

US-PAT-NO: 5840644

DOCUMENT-IDENTIFIER: US 5840644 A

TITLE: Metallocenes containing aryl-substituted indenyl derivatives as ligands, process for their preparation, and their use as catalysts

DATE-ISSUED: November 24, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kuber; Frank	Oberursel			DE
Bachmann; Bernd	Eppstein			DE
Spaleck; Walter	Liederbach			DE
Winter; Andreas	Glashutten			DE
Rohrmann; Jurgen	Kelkheim			DE

US-CL-CURRENT: 502/117; 502/103, 526/127, 526/160, 526/943

ABSTRACT:

Metallocenes containing aryl-substituted indenyl derivatives as ligands, process for their preparation, and their use as catalysts.

A very effective catalyst system for the polymerization or copolymerization of olefins comprises a cocatalyst, preferably an aluminoxane or a supported aluminoxane, and a metallocene of the formula I ##STR1## in which, in the preferred form, M.sup.1 is Zr or Hf, R.sup.1 and R.sup.2 are halogen or alkyl, R.sup.3 is alkyl, R.sup.4 to R.sup.12 are alkyl or hydrogen and R.sup.13 is a (substituted) alkylene or heteroatom bridge.

The metallocenes, in particular the zirconocenes, produce polymers of very high molecular weight, in the case of prochiral monomers polymers of very high molecular weight, very high stereotacticity and very high melting point, at high catalyst activities in the industrially particularly interesting temperature range between 50 and 80.degree. C. In addition, reactor deposits are avoided by means of supported catalyst systems.

5 Claims, 0 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	SWC	Draw Desc	Image
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☒ 2. Document ID: US 5786432 A

L1: Entry 2 of 9

File: USPT

Jul 28, 1998

US-PAT-NO: 5786432

DOCUMENT-IDENTIFIER: US 5786432 A

TITLE: Metallocenes containing aryl-substituted indenyl derivatives as ligands, process for their preparation, and their use as catalysts

DATE-ISSUED: July 28, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kuber; Frank	Oberursel			DE
Bachmann; Bernd	Eppstein/Taunus			DE
Spaleck; Walter	Liederbach/Taunus			DE
Winter; Andreas	Glashutten/Taunus			DE
Rohrmann; Jurgen	Kelkheim (Taunus)			DE

US-CL-CURRENT: 526/127; 502/117, 526/129, 526/134, 526/160, 526/905, 526/943

ABSTRACT:

Metallocenes containing aryl-substituted indenyl derivatives as ligands, process for their preparation, and their use as catalysts.

A very effective catalyst system for the polymerization or copolymerization of olefins comprises a cocatalyst, preferably an aluminoxane or a supported aluminoxane, and a metallocene of the formula I ##STR1## in which, in the preferred form, M.sup.1 is Zr or Hf, R.sup.1 and R.sup.2 are halogen or alkyl, R.sup.3 is alkyl, R.sup.4 to R.sup.12 are alkyl or hydrogen and R.sup.13 is a (substituted) alkylene or heteroatom bridge.

The metallocenes, in particular the zirconocenes, produce polymers of very high molecular weight, in the case of prochiral monomers polymers of very high molecular weight, very high stereotacticity and very high melting point, at high catalyst activities in the industrially particularly interesting temperature range between 50.degree. and 80.degree. C. In addition, reactor deposits are avoided by means of supported catalyst systems.

5 Claims, 0 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Desc	Image
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☒ 3. Document ID: US 5614457 A

L1: Entry 3 of 9

File: USPT

Mar 25, 1997

US-PAT-NO: 5614457

DOCUMENT-IDENTIFIER: US 5614457 A

TITLE: Catalyst system using aluminum alkyl with ion-pair metallocene catalysts

DATE-ISSUED: March 25, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ewen; John A.	Houston	TX		
Elder; Michael J.	Raleigh	NC		

US-CL-CURRENT: 502/117; 502/103, 502/128, 526/133, 526/351

ABSTRACT:

This invention is for a catalyst system for polymerization of olefins using an ionic metallocene catalyst with aluminum alkyl. The metallocene catalyst is an ion pair formed from a neutral metallocene compound and an ionizing compound. The invention can be used in any method of producing ionic metallocene catalysts. Use of aluminum alkyl with an ionic metallocene catalyst eliminates the need for using methylaluminoxane (MAO). Catalysts produced by the method of this invention have high activity. The invention reduces catalyst poisons which cause low activity, no activity or uncontrolled polymerizations. Polymerization using this catalyst system are reproducible and controllable.

16 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWC	Draw Desc	Image
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☒ 4. Document ID: US 5519100 A

L1: Entry 4 of 9

File: USPT

May 21, 1996

US-PAT-NO: 5519100

DOCUMENT-IDENTIFIER: US 5519100 A

TITLE: Addition of aluminum alkyl for improved metallocene catalyst

DATE-ISSUED: May 21, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ewen; John A.	Houston	TX		
Elder; Michael J.	Raleigh	NC		

US-CL-CURRENT: 526/134; 526/128, 526/131, 526/132, 526/133

ABSTRACT:

This invention is for a catalyst system for polymerization of olefins using an ionic metallocene catalyst with aluminum alkyl. The metallocene catalyst is an ion pair formed from a neutral metallocene compound and an ionizing compound. The invention can be used in any method of producing ionic metallocene catalyst. Use of aluminum alkyl with an ionic metallocene catalyst eliminates the need for using methylaluminoxane (MAO). Catalysts produced by the method of this invention have high activity. The invention reduces catalyst poisons which cause low activity, no activity or uncontrolled polymerizations. Polymerizations using this catalyst system are reproducible and controllable.

13 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full	Title	Citation	Print	Review	Classification	Date	Reference	Sequences	Attachments
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RMK	Draw Desc	Image
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☒ 5. Document ID: US 5514760 A

L1: Entry 5 of 9

File: USPT

May 7, 1996

US-PAT-NO: 5514760

DOCUMENT-IDENTIFIER: US 5514760 A

TITLE: Soluble catalyst systems for the preparation of polyalk-1-enes having high molecular weights

DATE-ISSUED: May 7, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Karl; Eberhard	Konstanz			DE
Roell; Werner	Konstanz			DE
Brintzinger; Hans	Leimbach-Guntershausen			CH
Rieger; Bernhard	Nehren			DE
Stehling; Udo	Konstanz			DE

US-CL-CURRENT: 526/127; 502/152, 526/160, 526/351, 556/11

ABSTRACT:

Catalyst systems for the polymerization of C.sub.2 -C.sub.10 -alk-1-enes contain, as active components,

a) a metallocene complex of the general formula I ##STR1## where M is titanium, zirconium, hafnium, vanadium, niobium or tantalum, X is halogen or C.sub.1 -C.sub.8 -alkyl, Y is carbon, phosphorus, sulfur, silicon or germanium, Z is C.sub.1 -C.sub.8 -alkyl, C.sub.3 -C.sub.10 -cycloalkyl or C.sub.6 -C.sub.10 -aryl, R.sup.1 and R.sup.2 are identical or different and are each C.sub.1 -C.sub.4 -alkyl, R.sup.3 to R.sup.6 are identical or different and are each hydrogen or C.sub.1 -C.sub.8 -alkyl, or two adjacent radicals R.sup.3 and R.sup.4 and R.sup.5 and R.sup.6 in each case together form a hydrocarbon ring system of 4 to 15 carbon atoms and n is 0, 1 or 2, and

b) an open-chain or cyclic alumoxane compound of the general formula II or III ##STR2## where R.sup.7 is C.sub.1 -C.sub.4 -alkyl and n is from 5 to 30. The novel catalyst systems are particularly suitable for the preparation of polyalk-1-enes having high molecular weights.

2 Claims, 0 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Print	Review	Classification	Date	Reference	Sequences	Attachments
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☒ 6. Document ID: US 5349032 A

L1: Entry 6 of 9

File: USPT

Sep 20, 1994

US-PAT-NO: 5349032

DOCUMENT-IDENTIFIER: US 5349032 A

**** See image for Certificate of Correction ****

TITLE: Metallocene and process for producing polyolefin using the same

DATE-ISSUED: September 20, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Miyake; Shigenobu	Oita			JP
Kibino; Nobuyuki	Oita			JP
Monoi; Takashi	Oita			JP
Ohira; Hiroyuki	Oita			JP
Inazawa; Shintaro	Oita			JP

US-CL-CURRENT: 526/127; 502/152, 526/160, 526/348.2, 526/348.4, 526/348.6, 526/351,
526/943, 556/12

ABSTRACT:

A metallocene having an asymmetric ligand which is represented by the formula below and its enantiomer: ##STR1## and a process for producing a polyolefin using the same as a catalyst component. The metallocene and its enantiomer are particularly effective in the production of highly stereospecific polyolefins.

11 Claims, 4 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 4

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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☒ 7. Document ID: US 5329031 A

L1: Entry 7 of 9

File: USPT

Jul 12, 1994

US-PAT-NO: 5329031

DOCUMENT-IDENTIFIER: US 5329031 A

**** See image for Certificate of Correction ****

TITLE: Metallocene and process for producing polyolefin using the same

DATE-ISSUED: July 12, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Miyake; Shigenobu	Oita			JP
Kibino; Nobuyuki	Oita			JP
Monoi; Takashi	Oita			JP
Ohira; Hiroyuki	Oita			JP
Inazawa; Shintaro	Oita			JP

US-CL-CURRENT: 556/12; 502/152, 526/127, 526/160, 526/943, 556/11, 556/28, 556/51,
556/52, 556/53, 556/9

ABSTRACT:

A metallocene having an asymmetric ligand which is represented by the formula below

and its enantiomer: ##STR1## and a process for producing a polyolefin using the same as a catalyst component. The metallocene and its enantiomer are particularly effective in the production of highly stereospecific polyolefins.

7 Claims, 4 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 4

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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☒ 8. Document ID: US 5296434 A

L1: Entry 8 of 9

File: USPT

Mar 22, 1994

US-PAT-NO: 5296434

DOCUMENT-IDENTIFIER: US 5296434 A

**** See image for Certificate of Correction ****

TITLE: Soluble catalyst systems for the preparation of polyalk-1-enes having high molecular weights

DATE-ISSUED: March 22, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Karl; Eberhard	Konstanz			DE
Roell; Werner	Konstanz			DE
Brintzinger; Hans	CH-Leimbach-Guntershausen			CH
Rieger; Bernhard	Nehren			DE
Stehling; Udo	Konstanz			DE

US-CL-CURRENT: 502/117; 502/103, 526/160, 526/943

ABSTRACT:

Catalyst systems for the polymerization of C.sub.2 -C.sub.10 -alk-1-enes contain, as active components,

a) a metallocene complex of the general formula I ##STR1## where M is titanium, zirconium, hafnium, vanadium, niobium or tantalum, X is halogen or C.sub.1 --C.sub.8 -alkyl, Y is carbon, phosphorus, sulfur, silicon or germanium, Z is C.sub.1 -C.sub.8 -alkyl, C.sub.3 -C.sub.10 -cycloalkyl or C.sub.6 -C.sub.10 -aryl, R.sup.1 and R.sup.2 are identical or different and are each C.sub.1 -C.sub.4 -alkyl, R.sup.3 to R.sup.6 are identical or different and are each hydrogen or C.sub.1 -C.sub.8 -alkyl, or two adjacent radicals R.sup.3 and R.sup.4 and R.sup.5 and R.sup.6 in each case together form a hydrocarbon ring system of 4 to 15 carbon atoms and n is 0, 1 or 2, and

b) an open-chain or cyclic alumoxane compound of the general formula II or III ##STR2## where R.sup.7 is C.sub.1 -C.sub.4 -alkyl and n is from 5 to 30. The novel catalyst systems are particularly suitable for the preparation of polyalk-1-enes having high molecular weights.

8 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full	Title	Citation	Print	Review	Classification	Date	Reference	Sequences	Attachments
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☒ 9. Document ID: US 5036034 A

L1: Entry 9 of 9

File: USPT

Jul 30, 1991

US-PAT-NO: 5036034

DOCUMENT-IDENTIFIER: US 5036034 A

TITLE: Catalyst for producing hemiisotactic polypropylene

DATE-ISSUED: July 30, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ewen; John A.	Houston	TX		

US-CL-CURRENT: 502/117; 502/103, 526/160, 526/351, 526/943, 556/43, 556/53, 556/58

ABSTRACT:

This invention is for a metallocene compound which can be used in a catalyst system to produce hemiisotactic polymer. The compound is a bridged metallocene compound having dissimilar cyclopentadienyl groups and no bi-lateral symmetry. One example of the compound is isopropylidene(3-methylcyclopentadienyl-1-fluorenyl) zirconium dichloride. The catalyst of this invention can be converted to an ionic metallocene catalyst by an ionizing agent, such as methylaluminoxane.

The polymer produced with this catalyst is characterized by having an isotactic structure effecting only every other asymmetric carbon atom. In the case of polypropylene, every other methyl group is on the same side of the principal polymer chain as represented by a Fisher projection. The remaining methyl groups can be either on the same side or on the opposite side of the principal polymer chain. The polymer produced with the catalyst of this invention can be used as a plasticizer.

8 Claims, 0 Drawing figures

Exemplary Claim Number: 5

Full	Title	Citation	Print	Review	Classification	Date	Reference	Sequences	Attachments
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"5514760"[USPT]	1
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"5786432"[USPT]	1
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"5036034"[USPT]	1
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"5329031"[USPT]	1
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L1: Entry 1 of 4

File: USPT

Feb 20, 2001

US-PAT-NO: 6190153

DOCUMENT-IDENTIFIER: US 6190153 B1

TITLE: Oriented film producing facility with thickness and orientation control means

DATE-ISSUED: February 20, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tsuzukiyama; Koji	Sodegaura			JP
Motooka; Masanori	Ichihara			JP
Fujiwara; Toshiyuki	Ibaragi-ken			JP
Toriumi; Michio	Ichihara			JP

US-CL-CURRENT: 425/135, 264/40.1, 264/40.7, 264/410, 264/412, 356/364, 425/141,
425/143, 425/145, 425/169, 425/325, 425/335

ABSTRACT:

A drawing system in which a thickness and degree of orientation of an oriented film or the like is maintained in a uniform manner under a condition of a high speed, shortened is a time required from a time when a molding material is charged in an extruder and drawing started until a time when a film is taken up on a take-up apparatus, and a high quality film or the like is produced at a high speed and besides, a probability for a not-oriented or oriented film or the like to be broken down during drawing is reduced. A thickness and degree of orientation of a film are independently measured in thickness gauges and a film orientation measuring apparatus in a continuous manner after longitudinal drawing or lateral drawing and measured values are input to a computer. The computer input with the measured values respectively compares preset target values with the measured thickness and degree of orientation and a control operation to change a longitudinal draw ratio is conducted if the measured values are different from respective preset values based on results of comparison processing.

16 Claims, 13 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 9

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	SMC	Draw Desc	Image
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☒ 2. Document ID: US 5595827 A

L1: Entry 2 of 4

File: USPT

Jan 21, 1997

US-PAT-NO: 5595827

DOCUMENT-IDENTIFIER: US 5595827 A

TITLE: Polypropylene resin composition and the use of the same

DATE-ISSUED: January 21, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yamada; Masaya	Ichihara			JP
Toriumi; Michio	Ichihara			JP
Shinozaki; Tetsunori	Waki-cho			JP
Kioka; Mamoru	Waki-cho			JP

US-CL-CURRENT: 428/516; 428/213, 428/910

ABSTRACT:

Disclosed are a polypropylene resin composition comprising a crystalline polypropylene having a high stereoregularity and a terpene resin and a petroleum resin each having no polar group; a polypropylene stretched film formed from the polypropylene resin composition; and a polypropylene multi-layer stretched film having a base layer formed from the polypropylene resin composition and a surface layer formed from a polypropylene type polymer. The polypropylene stretched film and a polypropylene multi-layer stretched film have excellent water-vapor barrier properties and transparency, and a high Young's modulus.

Further, disclosed are a polypropylene resin composition comprising a crystalline polypropylene having a high stereoregularity and a hydrogenated petroleum resin; a PTP packaging polypropylene sheet formed from the polypropylene resin composition; and a PTP packaging polypropylene multi-layer sheet having a base layer formed from the polypropylene resin composition and a surface layer formed from a propylene type polymer, wherein the proportion of the thickness of the base layer to the total thickness of the sheet is more than 50%, and the total thickness of the sheet and the proportion of the thickness of the base layer satisfy the specific relationship. The PTP packaging polypropylene sheet and the PTP packaging polypropylene multi-layer sheet have excellent water-vapor barrier properties and transparency, and a high rigidity.

8 Claims, 0 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC	Draw Desc	Image
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☒ 3. Document ID: US 5579913 A

L1: Entry 3 of 4

File: USPT

Dec 3, 1996

US-PAT-NO: 5579913

DOCUMENT-IDENTIFIER: US 5579913 A

TITLE: Polypropylene resin composition and the use of the same

DATE-ISSUED: December 3, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yamada; Masaya	Ichihara			JP
Futami; Yasuo	Ichihara			JP
Shinozaki; Tetsunori	Waki			JP
Kioka; Mamoru	Waki			JP

US-CL-CURRENT: 206/531; 206/532, 428/213, 428/516, 428/910

ABSTRACT:

Disclosed are a polypropylene resin composition comprising a crystalline polypropylene having a high stereoregularity and a terpene resin and a petroleum resin each having no polar group; a polypropylene stretched film formed from the polypropylene resin composition; and a polypropylene multi-layer stretched film having a base layer formed from the polypropylene resin composition and surface layer formed from a polypropylene type polymer. The polypropylene stretched film and a polypropylene multi-layer stretched film have excellent water-vapor barrier properties and transparency, and a high Young's modulus.

Further, disclosed are a polypropylene resin composition comprising a crystalline polypropylene having a high stereoregularity and a hydrogenated petroleum resin; a PTP packaging polypropylene sheet formed from the polypropylene resin composition; and a PTP packaging polypropylene multi-layer sheet having a base layer formed from the polypropylene resin composition and a surface layer formed from a propylene type polymer, wherein the proportion of the thickness of the base layer to the total thickness of the sheet is more than 50%, and the total thickness of the sheet and the proportion of the thickness of the base layer satisfy the specific relationship. The PTP packaging polypropylene sheet and the PTP packaging polypropylene multi-layer sheet have excellent water-vapor barrier properties and transparency, and a high rigidity.

6 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Field	Title	Class	Pub	Seq	Doc	Pub	Seq	Doc	Seq	Doc
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Field	Title	Class	Pub	Seq	Doc	Pub	Seq	Doc	Seq	Doc
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☒ 4. Document ID: US 5536773 A

L1: Entry 4 of 4

File: USPT

Jul 16, 1996

US-PAT-NO: 5536773

DOCUMENT-IDENTIFIER: US 5536773 A

TITLE: Polypropylene resin composition and the use of the same

DATE-ISSUED: July 16, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yamada; Masaya	Ichihara			JP
Toriumi; Michio	Ichihara			JP
Futami; Yasuo	Ichihara			JP
Shinozaki; Tetsunori	Waki-cho			JP
Kioka; Mamoru	Waki-cho			JP

US-CL-CURRENT: 524/499; 525/209, 525/210, 525/211, 525/216, 525/240

ABSTRACT:

Disclosed are a polypropylene resin composition comprising a crystalline polypropylene having a high stereoregularity and a terpene resin and a petroleum resin each having no polar group; a polypropylene stretched film formed from the polypropylene resin composition; and a polypropylene multi-layer stretched film having a base layer formed from the polypropylene resin composition and a surface layer formed from a polypropylene type polymer. The polypropylene stretched film and a polypropylene multi-layer stretched film have excellent water-vapor barrier properties and transparency, and a high Young's modulus.

Further, disclosed are a polypropylene resin composition comprising a crystalline polypropylene having a high stereoregularity and a hydrogenated petroleum resin; a PTP packaging polypropylene sheet formed from the polypropylene resin composition; and a PTP packaging polypropylene multi-layer sheet having a base layer formed from the polypropylene resin composition and a surface layer formed from a propylene type polymer, wherein the proportion of the thickness of the base layer to the total thickness of the sheet is more than 50%, and the total thickness of the sheet and the proportion of the thickness of the base layer satisfy the specific relationship. The PTP packaging polypropylene sheet and the PTP packaging polypropylene multi-layer sheet have excellent water-vapor barrier properties and transparency, and a high rigidity.

18 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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Term	Documents
"6190153"[USPT]	1
6190153S	0
"5579913"[USPT]	1
5579913S	0
"5595827"[USPT]	1
5595827S	0
"5536773"[USPT]	1
5536773S	0
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((6190153 OR 5579913 OR 5595827 OR 5536773)[PN]).USPT.	4

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Search Results - Record(s) 1 through 12 of 12 returned.☐ 1. Document ID: US 20020052585 A1

L6: Entry 1 of 12

File: PGPB

May 2, 2002

PGPUB-DOCUMENT-NUMBER: 20020052585
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020052585 A1

TITLE: High performance elastic composite materials made from high molecular weight thermoplastic triblock elastomers

PUBLICATION-DATE: May 2, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Thomas, Oomman P.	Alpharetta	GA	US	
Fitts, James R. JR.	Gainesville	GA	US	
Shane, Richard M.	Lilburn	GA	US	
Willitts, Donald V.	Powder Springs	GA	US	

US-CL-CURRENT: 604/370

ABSTRACT:

The present invention comprises a continuous feed spun bonded laminate having improved elastic properties measured at body temperature. The laminate comprises at least one first and second nonelastic layers between which is sandwiched at least one elastic layer, the elastic layer being comprised of a triblock polystyrene-poly(ethylene/propylene)-polystyrene ("SEPS") copolymer having a number average molecular weight of about 81,000 g/mol. The weight percent of styrene is approximately 18% and the weight percent of ethylene/propylene is approximately 82%. The molecular weight increase in the EP block, while holding the molecular weight of the styrene block constant, increases the entanglement density, polymer chain persistence length and the relaxation time. The resulting laminate load decay rate and load loss measurements over a period of 12 hours at body temperature showed marked improvement over known CFSBL product. The laminate is particularly useful as side panel material in training pants because of the resistance to sagging at body temperature.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	WMO	Draw Desc	Image
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☐ 2. Document ID: US 20020009940 A1

L6: Entry 2 of 12

File: PGPB

Jan 24, 2002

PGPUB-DOCUMENT-NUMBER: 20020009940
PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020009940 A1

TITLE: Targeted elastic laminate having zones of different polymer materials

PUBLICATION-DATE: January 24, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
May, Raymond Jeffrey	Norcross	GA	US	
Carr, James Marcus	Kaukauna	WI	US	
Brunner, Michael Scott	Roswell	GA	US	
Boggs, Lavada Campbell	Marietta	GA	US	
Rhim, Hannong	Roswell	GA	US	
Fitts,, James Russell JR.	Gainesville	GA	US	
Salter, Kenneth Michael	LaGrange	GA	US	
Lang, Victor Charles	Appleton	WI	US	
Eggen, Adrian Roy	Appleton	WI	US	
Thomas, Oomman Painumoottil	Alpharetta	GA	US	

US-CL-CURRENT: 442/328; 156/167, 156/178, 156/179, 156/229, 156/244.11, 264/171.24,
264/210.8, 264/211.14, 264/342RE, 442/329, 442/361, 442/400, 442/401, 442/415

ABSTRACT:

A targeted elastic laminate material having different zones of tension across a width of a material roll and methods for making the same. At least two polymers or polymer blends having different set properties are used to produce varying tension zones across the material. The targeted elastic laminate material has elastic properties that provide improved fit characteristics to disposable personal care products, while maintaining a flat roll profile that allows the material to be easily processed at a high speed.

 3. Document ID: US 20020007164 A1

L6: Entry 3 of 12

File: PGPB

Jan 17, 2002

PGPUB-DOCUMENT-NUMBER: 20020007164

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020007164 A1

TITLE: Garment having gasket with integrated zone of elastic tension and/or stretch

PUBLICATION-DATE: January 17, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Boggs, Lavada Campbell	Marietta	GA	US	
Rhim, Hannong	Roswell	GA	US	
Dobbins, Leslie	Marietta	GA	US	
Friderich, S. Scott	Alpharetta	GA	US	

US-CL-CURRENT: 604/367; 604/385.27

ABSTRACT:

A disposable garment includes a gasket around one or more openings for the legs, arms, waist or the like on a wearer. At least a portion of the garment includes a targeted elastic material including zones of high and low elastic tension and/or high and low stretch in the same material, integrated during formation of the material. The targeted elastic material is positioned so that at least one high tension and/or low stretch zone is aligned with at least one garment opening, and at least one low tension and/or high stretch zone is aligned inward of the high tension and/or low stretch zone, thereby functioning as a gasket without requiring a separately manufactured, attached elastic band.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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MMIC	Draw Desc	Image
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☐ 4. Document ID: US 20020007148 A1

L6: Entry 4 of 12

File: PGPB

Jan 17, 2002

PGPUB-DOCUMENT-NUMBER: 20020007148

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020007148 A1

TITLE: Garment having integrated zone of elastic tension aligned with an opening

PUBLICATION-DATE: January 17, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
May, Raymond Jeffrey	Norcross	GA	US	
Carr, James Marcus	Kaukauna	WI	US	

US-CL-CURRENT: 604/132; 604/133

ABSTRACT:

A disposable garment includes a chassis defining one or more openings for the legs, arms, waist or the like on a wearer. At least a portion of the chassis includes a targeted elastic material including zones of high and low elastic tension in the same material, integrated during formation of the material. The targeted elastic material is positioned so that at least one high tension zone is aligned with at least one garment opening, thereby functioning as an elastic band without requiring a separately manufactured, attached elastic band.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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MMIC	Draw Desc	Image
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☐ 5. Document ID: US 20020002021 A1

L6: Entry 5 of 12

File: PGPB

Jan 3, 2002

PGPUB-DOCUMENT-NUMBER: 20020002021

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020002021 A1

TITLE: Targeted elastic laminate having zones of different basis weights

PUBLICATION-DATE: January 3, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
May, Raymond Jeffrey	Norcross	GA	US	
Carr, James Marcus	Kaukauna	WI	US	
Thiessen, Richard Harry	Appleton	WI	US	
Boggs, Lavada Campbell	Marietta	GA	US	
Rhim, Hannong	Roswell	GA	US	
Fitts,, James Russell JR.	Gainesville	GA	US	
Eggen, Adrian Roy	Appleton	WI	US	
Lang, Victor Charles	Appleton	WI	US	
Salter, Kenneth Michael	LaGrange	GA	US	

US-CL-CURRENT: 442/381; 442/328, 442/329, 442/334, 442/394

ABSTRACT:

A targeted elastic laminate material is provided having at least one low tension zone with first filaments having a first basis weight and at least one high tension zone having second filaments with a second basis weight greater than the first basis weight. The second basis weight is greater due to increased average thickness of the second filaments and/or increased frequency of second filaments relative to the first filaments. Methods and modifications of those methods are provided to produce a targeted elastic laminate material according to the preferred embodiments of this invention.

☐ 6. Document ID: US 6423800 B1

L6: Entry 6 of 12

File: USPT

Jul 23, 2002

US-PAT-NO: 6423800

DOCUMENT-IDENTIFIER: US 6423800 B1

TITLE: Pelletized polyolefin having ultra-high melt flow and its articles of manufacture

DATE-ISSUED: July 23, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Musgrave; Michael W.	Houston	TX		

US-CL-CURRENT: 526/227; 525/240, 525/242, 525/387, 526/348

ABSTRACT:

Provided is pelletized polymer composition, a majority of which is poly-.alpha.-olefin or poly-.alpha.-olefin copolymer, which when melted displays melt flow rate greater than about 500 dg/min.

22 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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Draw	Draw Desc	Image
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☐ 7. Document ID: US 6323389 B1

L6: Entry 7 of 12

File: USPT

Nov 27, 2001

US-PAT-NO: 6323389

DOCUMENT-IDENTIFIER: US 6323389 B1

TITLE: High performance elastic composite materials made from high molecular weight thermoplastic triblock elastomers

DATE-ISSUED: November 27, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Thomas; Oomman P.	Alpharetta	GA		
Fitts, Jr.; James R.	Gainesville	GA		
Shane; Richard M.	Lilburn	GA		
Willitts; Donald V.	Powder Springs	GA		

US-CL-CURRENT: 604/370; 604/373, 604/385.24, 604/385.27

ABSTRACT:

The present invention comprises a continuous feed spun bonded laminate having improved elastic properties measured at body temperature. The laminate comprises at least one first and second nonelastic layers between which is sandwiched at least one elastic layer, the elastic layer being comprised of a triblock polystyrene-poly(ethylene/propylene)-polystyrene ("SEPS") copolymer having a number average molecular weight of about 81,000 g/mol. The weight percent of styrene is approximately 18% and the weight percent of ethylene/propylene is approximately 82%. The molecular weight increase in the EP block, while holding the molecular weight of the styrene block constant, increases the entanglement density, polymer chain persistence length and the relaxation time. The resulting laminate load decay rate and load loss measurements over a period of 12 hours at body temperature showed marked improvement over known CFSBL product. The laminate is particularly useful as side panel material in training pants because of the resistance to sagging at body temperature.

22 Claims, 2 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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Draw	Draw Desc	Image
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☐ 8. Document ID: US 6277479 B1

L6: Entry 8 of 12

File: USPT

Aug 21, 2001

US-PAT-NO: 6277479

DOCUMENT-IDENTIFIER: US 6277479 B1

TITLE: Microporous films having zoned breathability

DATE-ISSUED: August 21, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Campbell; Stephen Michael	Winneconne	WI		
Welch; Howard Martin	Woodstock	GA		
Barnett, Jr.; Larry Ned	Church Hill	TN		
Blaney; Carol Ann	Roswell	GA		
Fell; David Arthur	Neenah	IL		
Freiburger; Sarah Jane Marie	Kaukauna	WI		
Haffner; William Bela	Kennesaw	GA		
Leick; Marianne Keevill	Appleton	WI		
McCormack; Ann Louise	Cumming	GA		
Tulley, Jr.; Douglas H.	Atlanta	GA		

US-CL-CURRENT: 428/213; 428/218, 428/315.7, 428/316.6, 428/319.7, 428/913, 442/370

ABSTRACT:

Breathable microporous films are provided having controlled regional breathability with thick high WVTR regions and thinner low WVTR regions. The zoned breathable microporous films can be made by selectively applying heat and/or pressure to specific regions the microporous film such as by feeding a microporous film through a pair of heated nip rollers with one of the rolls having a raised surface area or by applying a focused stream of hot air. Monolayer microporous films and multilayer films having at least one microporous layer can be treated to impart zoned breathability to the film.

24 Claims, 19 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 7

Pat. No.	Title	Class.	Publ.	Exam.	Class.	Date	Examiner	Sequence	Remarks
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Page	Images	Images
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☒ 9. Document ID: US 6010588 A

L6: Entry 9 of 12

File: USPT

Jan 4, 2000

US-PAT-NO: 6010588

DOCUMENT-IDENTIFIER: US 6010588 A

TITLE: Polyolefin fibers and their fabrics

DATE-ISSUED: January 4, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Stahl; Glenn Allan	Humble	TX		
McAlpin; James John	Houston	TX		

US-CL-CURRENT: 156/167; 156/166, 156/169, 156/175, 156/180, 162/141, 57/252, 57/255, 57/289

ABSTRACT:

Novel fibers have been made of reactor grade isotactic poly-alpha-olefin wherein polypropylene is produced by single-site catalysis and has a melt flow rate of greater than zero to about 5,000, MWD in the range of about 1.0 to about 3.5.

25 Claims, 1 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

Full	Title	Class	Front	Review	Classification	Date	Reference	Sequences	Attachments
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☒ 10. Document ID: US 5736465 A

L6: Entry 10 of 12

File: USPT

Apr 7, 1998

US-PAT-NO: 5736465

DOCUMENT-IDENTIFIER: US 5736465 A

TITLE: Polyolefin fibers and their fabrics

DATE-ISSUED: April 7, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Stahl; Glenn Allan	Humble	TX		
McAlpin; James John	Houston	TX		

US-CL-CURRENT: 442/59; 2/149, 2/69, 428/332, 428/357, 428/361, 428/394, 442/181,
442/304, 442/400, 442/401, 523/124

ABSTRACT:

Novel fibers have been made from reactor grade isotactic poly-alpha-olefin wherein polypropylene is produced by single-site catalysis and has a melt flow rate of greater than zero to about 5,000, MWD in the range of about 1.0 to about 3.5.

9 Claims, 1 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

Full	Title	Class	Front	Review	Classification	Date	Reference	Sequences	Attachments
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MM	Draw Desc	Image
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☒ 11. Document ID: US 5723217 A

L6: Entry 11 of 12

File: USPT

Mar 3, 1998

US-PAT-NO: 5723217

DOCUMENT-IDENTIFIER: US 5723217 A

TITLE: Polyolefin fibers and their fabrics

DATE-ISSUED: March 3, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Stahl; Glenn Allan	Humble	TX		
McAlpin; James John	Houston	TX		

US-CL-CURRENT: 428/401; 242/918, 428/364, 428/365, 428/392, 428/394, 428/395,
57/288, 57/305, 57/313

ABSTRACT:

Novel fibers have been made from reactor grade isotactic poly-alpha-olefin wherein polypropylene is produced by single-site catalysis and has a melt flow rate of greater than zero to about 5,000, MWD in the range of about 1.0 to about 3.5.

16 Claims, 1 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 1

Full Title Abstracts Prior Art Renewal Classification Date Reference Sequences Attachments

WWW Draw Desc Image

☒ 12. Document ID: US 5322728 A

L6: Entry 12 of 12

File: USPT

Jun 21, 1994

US-PAT-NO: 5322728

DOCUMENT-IDENTIFIER: US 5322728 A

TITLE: Fibers of polyolefin polymers

DATE-ISSUED: June 21, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Davey; Christopher R.	Knoxville	TN		
Erderly; Thomas C.	Baytown	TX		
Mehta; Aspy K.	Humble	TX		
Speed; Charles S.	Dayton	TX		

US-CL-CURRENT: 442/401; 139/420R, 264/210.8, 428/364, 428/365, 526/347, 526/348.1,
57/243, 66/171, 66/202

ABSTRACT:

Fiber with unique elastic properties comprising copolymer, of ethylene and comonomer, having density in the range of about 0.86 to about 0.93 g/cm³, MWD in the range of about 2 to about 3.5, melt index in the range of about 4 to about 1000, and SDBI less than about 25.degree. C.

15 Claims, 1 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 1

Full Title Abstracts Prior Art Renewal Classification Date Reference Sequences Attachments

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Term	Documents
(4 AND 5).USPT,PGPB,DWPI.	12
(L4 AND L5).USPT,PGPB,DWPI.	12

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=> s fabric or textile
    88302 FABRIC
    79293 FABRICS
    121623 FABRIC
        (FABRIC OR FABRICS)
    72758 TEXTILE
    82667 TEXTILES
    116113 TEXTILE
        (TEXTILE OR TEXTILES)
L1    188282 FABRIC OR TEXTILE

=> s polypropylene
    136042 POLYPROPYLENE
    1817 POLYPROPYLENES
L2    136239 POLYPROPYLENE
        (POLYPROPYLENE OR POLYPROPYLENES)

=> s spunbonded or spun-bonded
    572 SPUNBONDED
    1 SPUNBONDEDS
    572 SPUNBONDED
        (SPUNBONDED OR SPUNBONDEDS)
    39292 SPUN
    3 SPUNS
    39293 SPUN
        (SPUN OR SPUNS)
    146893 BONDED
    1 BONDEDS
    146893 BONDED
        (BONDED OR BONDEDS)
    358 SPUN-BONDED
        (SPUN(W) BONDED)
L3    903 SPUNBONDED OR SPUN-BONDED

=> s process(l)single site catalyst
    1816641 PROCESS
    1181563 PROCESSES
    2686674 PROCESS
        (PROCESS OR PROCESSES)
    1047369 SINGLE
    2557 SINGLES
    1049560 SINGLE
        (SINGLE OR SINGLES)
    483151 SITE
    450339 SITES
    793613 SITE
        (SITE OR SITES)
    628008 CATALYST
    627755 CATALYSTS
    803334 CATALYST
        (CATALYST OR CATALYSTS)
    580 SINGLE SITE CATALYST
        (SINGLE(W) SITE(W) CATALYST)
L4    87 PROCESS(L) SINGLE SITE CATALYST

=> s vinylidene (l) ( fluoride hexafluoropropylene) (l) copolymer
    32006 VINYLIDENE
    93 VINYLIDENES
    32033 VINYLIDENE
        (VINYLIDENE OR VINYLIDENES)
    219843 FLUORIDE
    41673 FLUORIDES
    234597 FLUORIDE
        (FLUORIDE OR FLUORIDES)

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6024 HEXAFLUOROPROPYLENE
 2 HEXAFLUOROPROPYLENES
 6024 HEXAFLUOROPROPYLENE
 (HEXAFLUOROPROPYLENE OR HEXAFLUOROPROPYLENES)
 479 FLUORIDE HEXAFLUOROPROPYLENE
 (FLUORIDE(W) HEXAFLUOROPROPYLENE)
 498759 COPOLYMER
 169638 COPOLYMERS
 544485 COPOLYMER
 (COPOLYMER OR COPOLYMERS)
 L5 381 VINYLIDENE (L) (FLUORIDE HEXAFLUOROPROPYLENE) (L) COPOLYMER

=> s lubricant

58767 LUBRICANT
 57822 LUBRICANTS
 L6 82829 LUBRICANT
 (LUBRICANT OR LUBRICANTS)

=> d his

(FILE 'HOME' ENTERED AT 11:58:49 ON 22 JUN 2003)

FILE 'CAPLUS' ENTERED AT 11:59:06 ON 22 JUN 2003

L1 188282 S FABRIC OR TEXTILE
 L2 136239 S POLYPROPYLENE
 L3 903 S SPUNBONDED OR SPUN-BONDED
 L4 87 S PROCESS(L) SINGLE SITE CATALYST
 L5 381 S VINYLIDENE (L) (FLUORIDE HEXAFLUOROPROPYLENE) (L) COPOLYMER
 L6 82829 S LUBRICANT

=> s l1 and l2 and l3

L7 384 L1 AND L2 AND L3

=> s l5 and l7

L8 0 L5 AND L7

=> s l7 and l6

L9 8 L7 AND L6

=> s l7 and l4

L10 1 L7 AND L4

=> d l10 bib,abs

L10 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS

AN 1995:713695 CAPLUS

DN 123:85829

TI Polyolefin fibers, method of production and **fabrics** from

IN Stahl, G. Allan; McAlpin, James John

PA Exxon Chemical Patents, Inc., USA

SO PCT Int. Appl., 48 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9428219	A1	19941208	WO 1994-US6017	19940525
	W: AU, CA, CN, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9469891	A1	19941220	AU 1994-69891	19940525
	AU 680263	B2	19970724		
	EP 700464	A1	19960313	EP 1994-918668	19940525
	R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				

CN 1128055	A	19960731	CN 1994-192812	19940525
CN 1069707	B	20010815		
JP 08510801	T2	19961112	JP 1994-500992	19940525
JP 2902784	B2	19990607		
EP 854212	A1	19980722	EP 1998-105966	19940525

R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE

PRAI US 1993-66737	A	19930525
US 1993-164520	A	19931209
EP 1994-918668	A3	19940525
WO 1994-US6017	W	19940525

AB Title fibers comprise reactor-grade polyolefins produced by single-site catalysis. Polyolefins with a melt flow rate of .ltoreq.5000 dg/min and MWD of 1.0-3.5 was also claimed. Isotactic **polypropylene** with MFR 40 produced using a metallocene catalyst, (catalyst prepn. given) was spun at 2000 m/min to give fibers with tenacity of 3.54 g/denier, compared to 1.51 g/denier for a fiber prepd. from Ziegler-Natta catalyst-produced **polypropylene** with MFR 35 spun at 2000 m/min. **Spun-bonded** and melt blown webs were manufd. using **polypropylene** produced by single-site catalysis giving improved web strength and better air filtration properties.

=> d his

(FILE 'HOME' ENTERED AT 11:58:49 ON 22 JUN 2003)

FILE 'CAPLUS' ENTERED AT 11:59:06 ON 22 JUN 2003

L1	188282 S FABRIC OR TEXTILE
L2	136239 S POLYPROPYLENE
L3	903 S SPUNBONDED OR SPUN-BONDED
L4	87 S PROCESS(L) SINGLE SITE CATALYST
L5	381 S VINYLIDENE (L) (FLUORIDE HEXAFLUOROPROPYLENE) (L) COPOLYMER
L6	82829 S LUBRICANT
L7	384 S L1 AND L2 AND L3
L8	0 S L5 AND L7
L9	8 S L7 AND L6
L10	1 S L7 AND L4

=> d l9 1-8 bib,abs

L9 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2003 ACS
 AN 2002:748224 CAPLUS
 DN 137:264333

TI Composite sheets for ink-jet printing **fabrics** with good ink absorption properties and printability comprising composites having a **fabric** adhered to a reinforcing release layer by an adherable thermoplastic elastomer fiber nonwoven **fabric**

IN Hatta, Nobuo
 PA Kuraray Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002285482	A2	20021003	JP 2001-86593	20010326
PRAI	JP 2001-86593		20010326		

AB The ink-jet printing composite sheets (A) comprise a **fabric** adhered to a reinforcing layer by sandwiching an adherable thermoplastic elastomer fiber nonwoven **fabric** between the **fabric** and the reinforcing layer, or the composite sheets comprise A composite sheets having the **fabric** comprising a polyester **fabric**, or the composite sheets comprise A composite sheets having the thermoplastic

elastomer fiber nonwoven **fabric** comprising a melt-blown nonwoven **fabric**, or the composite sheets comprise A composite sheets having the reinforcing layer comprising a **spunbonded** polyolefin nonwoven **fabric** exhibiting stress (S) .gtoreq.1.0 kg/5 cm at stretch 10%, or the composite sheets comprise A composite sheets having the thermoplastic elastomer fiber nonwoven **fabric** comprising a hydrophilized nonwoven **fabric**. A melt-blown nonwoven **fabric** of spun fibers from a blend comprising 60 parts polystyrene-type rubber (Septon) and **polypropylene** (I) and a **spunbonded** I fiber nonwoven **fabric** with S 1.5 kg/5 cm were together embossed at roll temp. 100.degree. and calendered with a woven pongee of PET fibers at calender roll temp. 140.degree. to give a composite sheet showing air permeation rate 2.5 cm³/cm²-s. The composite sheet was ink-jet printed to give a printed **fabric** exhibiting slight oozing of the ink in the printed portion and showing strength of bonding between the **fabric** and the reinforcing release layer 1.3 kg/5 cm and good release properties of the reinforcing layer..

L9 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2003 ACS

AN 2002:220888 CAPLUS

DN 136:248996

TI **Spunbonded** and melt-blown multilayer **polypropylene** nonwoven **fabric** for absorbent medical sheets

IN Ishikawa, Masahide; Kurahashi, Akihiko

PA Idemitsu Unitech Co., Ltd., Japan

SO PCT Int. Appl., 24 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 2002022933	A1	20020321	WO 2001-JP8051	20010917	
	W:			AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM		
	RW:			GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG		
	JP 2002088633	A2	20020327	JP 2000-282065	20000918	
	AU 2001088051	A5	20020326	AU 2001-88051	20010917	
PRAI	JP 2000-282065	A	20000918			
	WO 2001-JP8051	W	20010917			
AB	Title multilayer nonwoven fabric , contg. both spun-bonded and melt-blown polypropylene nonwoven fabric layers, is characterized by the flexural rigidity/softness (JIS L 1096 6. 19.1 A with 45.degree.-cantilever method) of 70-120 mm and the static friction coeff. of the spun-bonded fabric 0.1-0.4. The nonwoven fabric is suitable for the uses as disposable diapers and sanitary napkins.					
RE.CNT	10	THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD				
		ALL CITATIONS AVAILABLE IN THE RE FORMAT				

L9 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2003 ACS

AN 2001:924065 CAPLUS

DN 136:42923

TI **Spunbonded** nonwoven **fabrics** containing polyolefin resins for absorbent article

IN Ishikawa, Masahide

PA Idemitsu Unitech Co., Ltd., Japan; Kurahashi, Akihiko

SO PCT Int. Appl., 32 pp.

CODEN: PIXXD2

DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001096641	A1	20011220	WO 2001-JP4984	20010613
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	JP 2002069820	A2	20020308	JP 2000-188726	20000623
	JP 2002038364	A2	20020206	JP 2000-225657	20000726
PRAI	JP 2000-176508	A	20000613		
	JP 2000-188726	A	20000623		
	JP 2000-225657	A	20000726		

AB Disclosed is a **spunbonded** nonwoven **fabric** which is made of a polyolefin resin and has an av. fiber diam. of 5-60 .mu.m, a basis wt. of 5-200 g/m2, and a coeff. of static friction of 0.1-0.4; or a **spunbonded** nonwoven **fabric** which is made of a **polypropylene** resin and has a bending resistance [sum of the values for the longitudinal and transverse directions as obtained according to JIS L 1096, 6.19.1, method A (45.degree. cantilever method)] of 70-120 mm and a coeff. of static friction of 0.1-0.4. The nonwoven **fabric** is suitable for use in an adsorbent, e.g. a disposable diaper, an incontinence pad, or a sanitary napkin. A nonwoven **fabric** was prepd. from cryst. **polypropylene** resin, erucic acid amide **lubricant**, and preservatives.

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2003 ACS

AN 2001:924064 CAPLUS

DN 136:58873

TI Nonwoven-**fabric** laminate containing polyolefin resins and use thereof

IN Ishikawa, Masahide; Kurahashi, Akihiko

PA Idemitsu Unitech Co., Ltd., Japan

SO PCT Int. Appl., 26 pp.

CODEN: PIXXD2

DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001096640	A1	20011220	WO 2001-JP4983	20010613
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	JP 2001355173	A2	20011226	JP 2000-176627	20000613
	AU 2001064258	A5	20011224	AU 2001-64258	20010613
	EP 1298240	A1	20030402	EP 2001-938622	20010613
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				

IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

PRAI JP 2000-176627 A 20000613
WO 2001-JP4983 W 20010613

AB Disclosed is a nonwoven-**fabric** laminate which comprises a **spunbonded** nonwoven polyolefin resin **fabric** having an av. fiber diam. of 5-60 μm and superposed thereon a moisture-permeable water-proofing material (a melt-blown nonwoven **fabric**, microporous resin film, etc.) and in which the **spunbonded** nonwoven **fabric** side has a coeff. of static friction of 0.1 to 0.4. A **polypropylene spunbonded** nonwoven **fabric** contg. erucic acid amide **lubricant** was laminated with **polypropylene** melt-blown nonwoven **fabric** (Microflex PC 0020).

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2003 ACS

AN 2001:545937 CAPLUS

DN 135:108571

TI **Spunbonded** nonwoven **fabrics** comprising **polypropylene** fibers with reduced surface coarseness and laminates of the nonwoven **fabrics** with meltblown nonwoven **fabrics** therefrom

IN Toriumi, Michio

PA Mitsui Chemicals, Inc., Japan

SO PCT Int. Appl., 31 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001053585	A1	20010726	WO 2000-JP219	20000119
	W: CA, JP, US				

PRAI WO 2000-JP219 20000119

AB The nonwoven **fabrics** comprise **spunbonded** nonwovens (A) comprising fibers comprising **polypropylene** (I) and having fiber diam. 0.8-2.8 denier, av. frictional coeff. (MIU) 0.1-0.3, thickness uniformity value ≤ 0.8 , water resistance $\geq 60 \text{ mmH}_2\text{O}$, and air permeation rate $\leq 480 \text{ mL/cm}^2\text{-s}$, or the nonwoven **fabrics** comprise **spunbonded** nonwovens (B) comprising fibers spun from compns. comprising 99.995-99.7% I showing ratio (Mw/Mn) of wt.-av. mol. wt. to no.-av. mol. wt. 1-3.5 as detd. by the gel permeation chromatog. and exhibiting melt flow rate (MFR; ASTM D 1238) at 230.degree. and load 2.16 kg 0.01-300 g/10 min, and 0.005-0.3% hexafluoropropylene-vinylidene fluoride copolymer (II), or the nonwoven **fabrics** comprise A or B **spunbonded** nonwovens having I prepd. using single-site catalysts. The nonwoven **fabrics** are useful for diapers, sanitary napkins, disposable undergarments, and bags for laundries and cosmetics. A compn. comprising metallocene-catalyzed I with MFR 30 g/10 min, m.p. 149.degree., crystn. temp. 108.degree., and Mw/Mn 2.8 and 0.04% (as II) Dynamar FX-9613 (**lubricant** contg. II 90, talc 6, CaCO_3 2, silicon oxide 2%) was melt spun, suctioned at 3900 m/min, and piled on a screen belt to give a **spunbonded** nonwoven **fabric** comprising fibers with diam. < 2.5 and exhibiting MIU (KES-SE friction tester) < 0.27 , thickness uniformity value < 0.71 as detd. by a specified testing, water resistance (JIS L-1092) $> 65 \text{ mmH}_2\text{O}$, and air permeation rate 430 $\text{mL/cm}^2\text{-s}$ and showing soft touch rating (10 panelists) ≥ 7 panelists.

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2003 ACS

AN 1998:304218 CAPLUS

DN 128:322824

TI Compositions for permanent hydrophilic treatment of polyolefin fibers
IN Dzen, Zang-ju; Wild, Christine
PA Schill + Seilacher G.m.b.H. + Co., Germany
SO Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW

DT Patent
LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 839947	A2	19980506	EP 1997-118710	19971028
	EP 839947	A3	19980819		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	DE 19645380	A1	19980507	DE 1996-19645380	19961104
PRAI	DE 1996-19645380		19961104		

OS MARPAT 128:322824

AB The title compns., esp. spinning prepns., which give good cohesion and static resistance, contain 15-75% nonionic surfactants and 85-25% quaternary ammonium compds. and/or polysiloxanes of specified structure. A mixt. of fatty acid esters of ethoxylated MeOH 31.5, bis(2-carboxyethyl)(2-hydroxyethyl)methylammonium methosulfate bis(palm oil acid) ester 48.5, ethoxylated castor oil (cohesion agent) 10, and polyethylene glycol fatty acid ester (emulsifier-lubricant) 10% was applied as a 10% aq. dispersion to a **spun-bonded polypropylene** fiber fleece, giving a product with hydrophilicity (Mahlo) test rating 60 units and sink time 7.8 s; vs. 35 and 3.8, resp., for untreated fleece.

L9 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2003 ACS

AN 1998:214566 CAPLUS

DN 128:271671

TI Method for manufacture of nonwoven **fabrics** containing long fibers

IN Fujiwara, Toshikatsu; Terakawa, Yasuki; Sugawara, Shigeyuki

PA Chisso Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10088459	A2	19980407	JP 1996-240747	19960911
PRAI	JP 1996-240747		19960911		

AB The title **fabrics** with good flexibility and fiber-adhesion strength even at low temp. are manufd. by laying **spun-bonded** core-sheath fibers on a continuous screen conveyor while vacuuming from the back side of the conveyor, then pressing the resulting long-fiber fleece between a nip of emboss roll and flat roll to create point-bonded areas where a mixt. of olefin copolymers (e.g., ethylene-propylene copolymer) or terpolymers (e.g., butene-ethylene-propylene copolymer) having low m.p. or softening point with 2-20% hydrocarbon-based **lubricants** and a cryst. thermoplastic resin (e.g., **polypropylene** and PET polyester) are used as a 1st component and a 2nd component of the core-sheath fibers, resp.

L9 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2003 ACS

AN 1997:251054 CAPLUS

DN 126:278936

TI Disposable nonwoven wiping sheets for mops with good dust adsorption and dust retention properties

IN Inaba, Mihoko; Sakamoto, Noryuki; Kashiwada, Toshinobu

PA Lion Corp, Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09066014	A2	19970311	JP 1995-248756	19950901
PRAI	JP 1995-248756		19950901		

AB The wiping sheets are prepd. by laminating one or two sides of nonwoven **fabrics** of long fibers with webs comprising hydrophilic fibers and crimpable synthetic fibers (A) to form sheets contg. A fibers having three-dimensional crimps. The materials are optionally treated with dust-control agents comprising 95-70% **lubricants** and 5-30% surfactants to form laminates contg. 1-20% dust-control agents. A **spunbonded** nonwoven **fabric** was laminated on two sides with a carded web comprising 80% spun bicomponent fibers from ethylene-propylene copolymer and **polypropylene** and 20% rayon fibers, sprayed with H2O at 50 kg/cm2 on two sides, dried, and sprayed with a compn. contg. 85% liq. paraffin and 15% polyoxyethylene C12-13-alkyl ether to give a nonwoven sheet contg. 5% dust-control agent and exhibiting good dust adsorption and dust retention properties and good polishing agent absorption and coating properties.

=> log y

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
50.90	51.11

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-5.86	-5.86

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L1: Entry 1 of 1

File: USPT

Apr 7, 1998

US-PAT-NO: 5736465

DOCUMENT-IDENTIFIER: US 5736465 A

TITLE: Polyolefin fibers and their fabrics

DATE-ISSUED: April 7, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Stahl; Glenn Allan	Humble	TX		
McAlpin; James John	Houston	TX		

US-CL-CURRENT: 442/59; 2/149, 2/69, 428/332, 428/357, 428/361, 428/394, 442/181,
442/304, 442/400, 442/401, 523/124

ABSTRACT:

Novel fibers have been made from reactor grade isotactic poly-alpha-olefin wherein polypropylene is produced by single-site catalysis and has a melt flow rate of greater than zero to about 5,000, MWD in the range of about 1.0 to about 3.5.

9 Claims, 1 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

CLS.1 SEQ.1 ATT.1

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Term	Documents
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5736465S	0
"5736465"[PN].USPT.	1
(5736465[PN]).USPT.	1

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Set Name Query

side by side

*DB=USPT,PGPB,DWPI; PLUR=YES; OP=ADJ*L6 14 and 15L5 11 and 12 and 13L4 process same single site catalystL3 polypropyleneL2 fabric or textileL1 spunbonded same (nonwoven or unwoven or non-woven
or un-woven)**Hit Count Set Name**

result set

12 L62088 L5282 L4266241 L3384501 L22790 L1

END OF SEARCH HISTORY

Set Name Query

side by side

Hit Count Set Name

result set

DB=USPT,PGPB,DWPI; PLUR`=YES; OP=ADJ

<u>L11</u>	l4 and l9	1	<u>L11</u>
<u>L10</u>	l5 and l8	12	<u>L10</u>
<u>L9</u>	l5 and l7	219	<u>L9</u>
<u>L8</u>	vinylidene same fluoride hexafluoropropylene same copolymer	1888	<u>L8</u>
<u>L7</u>	lubricant	200456	<u>L7</u>
<u>L6</u>	l4 and l5	12	<u>L6</u>
<u>L5</u>	l1 and l2 and l3	2088	<u>L5</u>
<u>L4</u>	process same single site catalyst	282	<u>L4</u>
<u>L3</u>	polypropylene	266241	<u>L3</u>
<u>L2</u>	fabric or textile	384501	<u>L2</u>
<u>L1</u>	spunbonded same (nonwoven or unwoven or non-woven or un-woven)	2790	<u>L1</u>

END OF SEARCH HISTORY

*** NOTICES ***

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3. In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] The polypropylene constituent characterized by for the melt flow rate manufactured by the polymerization method using a single site catalyst being a constituent containing the polypropylene for 0.1-100g / 10 minutes, and the lubricant containing a fluorine system polymer, and the content of lubricant being 0.0001 - 0.1 % of the weight as a fluorine system polymer.

[Claim 2] The polypropylene constituent according to claim 1 which is chosen from the group which lubricant makes a fluoride vinylidene hexafluoropropylene copolymer a principal component, and becomes from a barium sulfate, talc, a calcium carbonate, and silicon oxide and which contains a kind at least.

[Claim 3] The polypropylene constituent according to claim 1 or 2 which is an object for metal vacuum evaporation films.

[Claim 4] The polypropylene constituent according to claim 3 whose melt flow rates of polypropylene are 0.1-30g / 10 minutes.

[Claim 5] The polypropylene constituent according to claim 1 or 2 which is an object for nonwoven fabrics.

[Translation done.]

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JP 11-012400

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2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] this invention relates to the polypropylene constituent suitable for the polypropylene constituent manufactured using the single site catalyst especially the object for metal vacuum evaporation films, or nonwoven fabrics.

[0002]

[Description of the Prior Art] Compared with the polypropylene manufactured using the Ziegler catalyst, it is difficult for the polypropylene manufactured using single site catalysts, such as a metallocene catalyst, to obtain mold goods with good appearance. For example, if extrusion molding is carried out to the shape of a filament even if it uses the large polypropylene of the melt flow rate by which the moldability is generally made good, a melt fracture will arise, and the front face of a filament carries out surface deterioration, or if extrusion molding is carried out to the shape of a film or a sheet, surface deterioration and thickness unevenness will occur, or it is easy to produce poor appearance, such as fading white.

[0003] Conventionally, lubricant is blended with polypropylene, a moldability is improved and manufacturing an extrusion-molding article with good appearance is known. However, it is not known that the lubricant containing a fluorine system polymer will improve remarkably the appearance nature of the polypropylene by which the polymerization was carried out using the single site catalyst.

[0004]

[Problem(s) to be Solved by the Invention] The technical problem of this invention is offering the polyolefine constituent which it is the polypropylene constituent which makes a principal component the polypropylene which carried out the polymerization using the single site catalyst, and excels in appearance nature, a front face's does not carry out surface deterioration, thickness unevenness's does not arise, or poor appearance's, such as fading white, does not arise even if it carries out extrusion molding, but can obtain an extrusion-molding article with good appearance.

[0005]

[Means for Solving the Problem] this invention is the following polypropylene constituent.

- (1) The polypropylene constituent characterized by for the melt flow rate manufactured by the polymerization method using a single site catalyst being a constituent containing the polypropylene for 0.1-100g / 10 minutes, and the lubricant containing a fluorine system polymer, and the content of lubricant being 0.0001 - 0.1 % of the weight as a fluorine system polymer.
- (2) The polypropylene constituent of the above-mentioned (1) publication which contains a kind at least chosen from the group which lubricant makes a fluoride vinylidene hexafluoropropylene copolymer a principal component, and becomes from a barium sulfate, talc, a calcium carbonate, and silicon oxide.
- (3) A polypropylene constituent the above (1) which is an object for metal vacuum evaporation films, or given in (2).
- (4) The polypropylene constituent of the above-mentioned (3) publication whose melt flow rates of polypropylene are 0.1-30g / 10 minutes.
- (5) A polypropylene constituent the above (1) which is an object for nonwoven fabrics, or given in (2).

[0006] Polypropylene>> manufactured by the polymerization method using <<single site catalyst A single site catalyst is a catalyst whose active spot is homogeneity (single site), for example, a metallocene catalyst (the so-called Kaminsky catalyst), a BURUKKU heart catalyst, etc. are raised. For example, a metallocene catalyst is a catalyst which consists of a kind of compound chosen from the group which consists of a compound which reacts with a metallocene system transition-metals compound, and an organoaluminium compound and the above-mentioned metallocene system transition-metals compound, and forms an ion pair at least, and may be supported by the inorganic substance.

[0007] As the aforementioned metallocene system transition-metals compound, the compound indicated by JP,5-209014,A, JP,6-100579,A, JP,1-301704,A, JP,3-193796,A, JP,5-148284,A, etc., for example is raised.

[0008] As an organoaluminium compound, alkylaluminum or the shape of a chain, annular aluminosilane, etc. are raised. The above-mentioned shape of a chain and annular aluminosilane are generated by contacting alkylaluminum and water. For example, alkylaluminum is added at the time of a polymerization and it is obtained by adding water later or making the water of crystallization of complex salt or organic, and the water of adsorption and alkylaluminum of an inorganic compound react.

[0009] The compound with which the compound which reacts with the aforementioned metallocene system transition-metals compound, and forms an ion pair was indicated by ***** No. 501950 [one to], JP,3-207704,A, etc. is raised.

[0010] Silica gel, a zeolite, diatomaceous earth, etc. are raised as the aforementioned inorganic substance which makes a single

site catalyst support.

[0011] Although you may homopolymerize only with a propylene when manufacturing polypropylene using a single site catalyst, since shock resistance and flexibility are raised, a propylene and other alpha olefins can also be copolymerized for the purpose for the reduction in density etc. as such an alpha olefin -- the carbon numbers 2-20, such as ethylene, 1-butene, 3-methyl-1-pentene, 4-methyl-1-pentene, 1-hexene, 1-octene, and 1-decene, -- the alpha olefin of 2-8 is raised preferably. When it copolymerizes two or more sorts of alpha olefins, as for the amount of the alpha olefin used as the comonomer to a main monomer, it is desirable % and to 0.01-10-mol consider as 0.01-5-mol % preferably.

[0012] As a polymerization method, a bulk polymerization, solution polymerization, a suspension polymerization, a vapor phase polymerization, etc. are raised. Even if these polymerizations are batch methods, they may be continuous magnetization methods. Polymerization conditions are usually reaction pressure; ordinary-pressure -300kg/cm² (gage pressure) for polymerization temperature; -100-+250 degree C, and 5 minutes to polymerization time; 10 hours.

[0013] The polypropylene used by this invention is polypropylene by which the polymerization was carried out with the aforementioned single site catalyst, and a melt flow rate (230 degrees C, 2.16kg of loads) is polypropylene for 0.1-100g / 10 minutes. When using the polypropylene constituent of this invention for metal vacuum evaporatio films and a melt flow rate uses it for nonwoven fabrics for 0.1-30g / 10 minutes so that it may mention later, the polypropylene whose melt flow rates are 30-100g / 10 minutes is desirable. Moreover, as polypropylene, the feature may be taken out to stereoregularity according to a single site catalyst, and the polypropylene of syndiotactic structure other than the usual isotactic structure may be used.

[0014] <<lubricant>> The lubricant used by this invention may be lubricant containing a fluorine system polymer, and you may be lubricant which consists only of a fluorine system polymer, and other components for lubricant may be contained besides the fluorine system polymer. As for the content of the fluorine system polymer contained in lubricant, it is preferably desirable that it is 65 - 100 % of the weight 50 to 100% of the weight.

[0015] As the above-mentioned fluorine system polymer used as lubricant, the homopolymer of the fluorination alpha olefin by which a part or all of a hydrogen atom of an alpha olefin was replaced by the fluorine atom, a copolymer, or the copolymer of a fluorination alpha olefin and the alpha olefin by which the fluorination is not carried out can be used. A fluoride vinylidene, hexafluoropropylene, a tetrafluoroethylene, a chlorotrifluoroethylene, etc. are raised as a concrete thing of the above-mentioned fluorination alpha olefin.

[0016] As a concrete thing of a fluorine system polymer, a fluoride vinylidene hexafluoropropylene copolymer, a fluoride vinylidene chlorotrifluoroethylene copolymer, a tetrafluoroethylene propylene copolymer, etc. are raised. In these, a fluoride vinylidene hexafluoropropylene copolymer is desirable.

[0017] As a component for lubricant besides the above, inorganic compounds, such as talc, a calcium carbonate, silicon oxide, and a barium sulfate, etc. are raised. As lubricant used by this invention, the lubricant containing 50 - 100 % of the weight of fluorine system polymers, 0 - 10 % of the weight of talc, 0 - 15 % of the weight of calcium carbonates, 0 - 10 % of the weight of silicon oxide, and 0 - 10 % of the weight of barium sulfates is desirable.

[0018] You may use other well-known lubricant together besides the above-mentioned inorganic compound. For example, a liquid paraffin, Native paraffin, micro wax, synthetic paraffin, a polyethylene wax, Hydrocarbon system lubricant, such as a chlorinated hydrocarbon and a fluoro carvone; A higher fatty acid, Fatty-acid system lubricant, such as a hydroxy fatty acid; The lower-alcohol ester of a fatty-acid amide system lubricant; fatty acid, such as a fatty-acid amide and an alkylene screw fatty-acid amide, Alcoholic system lubricant, such as ester system lubricant; fatty alcohols, such as polyhydric-alcohol ester of a fatty acid, fatty-alcohol ester of a fatty acid, and polyglycol ester of a fatty acid, polyhydric alcohol, a polyglycol, and the poly glycerol; a metallic soap etc. is raised.

[0019] <<polypropylene constituent>> The polypropylene constituent of this invention is a polypropylene constituent containing the polypropylene manufactured by the polymerization method for using the aforementioned single site catalyst, and the lubricant containing the aforementioned fluorine system polymer. The content of lubricant is 0.01 - 0.08 % of the weight preferably 0.0001 to 0.1% of the weight as a content of the aforementioned fluorine system polymer in a polypropylene constituent.

[0020] In the polypropylene constituent of this invention, other components, such as other thermoplastics other than the aforementioned polypropylene, a heat-resistant stabilizer, a weathering stabilizer, an antioxidant, an antistatic agent, an anti blocking agent, a color, a pigment, natural oil, and a synthetic oil, may contain in the range which does not spoil the purpose of this invention.

[0021] The polypropylene constituent of this invention can be suitably used as the polypropylene constituent for extrusion molding especially the object for metal vacuum evaporatio films, or a polypropylene constituent for nonwoven fabrics. The polypropylene constituent of this invention can manufacture polypropylene, lubricant, and other components added as occasion demands by the method of carrying out melting kneading using an extruder, a kneader, etc. Moreover, lubricant may be beforehand mixed and masterbatch-ized to other polymer, such as polypropylene, at high concentration, and melting kneading of this masterbatch-ized particle and polypropylene may be carried out.

[0022] Thus, the polypropylene constituent of this invention obtained is excellent in appearance nature, although polypropylene is polypropylene by which the polymerization was carried out using the single site catalyst. For example, even if it uses as a raw material for extrusion molding, a front face does not carry out surface deterioration, thickness unevenness does not arise, poor appearance, such as fading white, is not produced, but an extrusion-molding article with good appearance can be obtained.

[0023] <<fabrication method>> Although a well-known method is employable in order to fabricate the polypropylene constituent of this invention, it is desirable to carry out extrusion molding using well-known extrusion equipment. For example, extrusion molding can be carried out by extruding the fused polypropylene constituent from a die using a monpodium screw extruder, a

kneading extruder, a ram extruder, a gear extruder, etc. Moreover, on the other hand in an extrusion-molding process, it can also extend in ** or the many directions.

[0024] Especially the configuration of the mold goods which carry out extrusion molding is not limited, but can be fabricated in arbitrary configurations, such as the shape of the shape of the shape of the shape of a filament, and a film, and a sheet, and a pipe, and a hose. In these, it is desirable to fabricate the shape of a filament, the shape of a film, and in the shape of a sheet.

[0025] Thus, the extrusion-molding article obtained has good appearance. For example, surface surface deterioration etc. does not produce a filament but a product with good appearance is obtained. Poor appearance, such as surface surface deterioration, thickness unevenness, and fading white, does not produce a film, but a product with good appearance is obtained.

[0026] Especially the polypropylene constituent of this invention is suitable for the object for metal vacuum evaporation films, or nonwoven fabrics. When extrusion molding of the film original fabric smooth [the polypropylene constituent of this invention] and uniform can be carried out in for metal vacuum evaporation films, it excels also in ductility, and the homogeneous vacuum evaporation layer which does not have a pinhole at the time of metal vacuum evaporation can be uniformly formed on a film. In the calcium-stearate independent case used best as lubricant on the other hand, unevenness appears in a metal vacuum evaporation layer, a pinhole occurs, and it can be hard to form a homogeneous vacuum evaporation layer on a film uniformly.

[0027] Since, as for the polypropylene constituent of this invention, the emitting smoke from near a spinning nozzle is suppressed in for nonwoven fabrics, there is also no possibility that smoke may condense by cooling, may adhere to a filament or a sheet, and may cause discoloration. In the calcium-stearate independent case used best as lubricant on the other hand, the smoke component which it transpired in the place to which the calcium stearate came out of the spinning nozzle, was easy to produce emitting smoke, it was cooled for this reason, and was condensed adheres to a filament, and it is easy to discolor a nonwoven fabric.

[0028]

[Effect of the Invention] Since the amount content of specification of the lubricant containing a fluorine system polymer is carried out, although polypropylene is polypropylene by which the polymerization was carried out with the single site catalyst, even if it excels in appearance nature and carries out extrusion molding, a front face does not carry out surface deterioration, thickness unevenness does not arise, or poor appearance, such as fading white, does not arise, but the polypropylene constituent of this invention can obtain an extrusion-molding article with good appearance.

[0029]

[Embodiments of the Invention]

The melt flow rate manufactured with the example 1 and the example of comparison 1 metallocene catalyst (230 degrees C) 2.16g 1.5g load / 10min, the melting point of 153 degrees C, the crystallization temperature of 114 degrees C, In the gay polypropylene of Mw/Mn2.5, 90 % of the weight of fluoride vinylidene hexafluoropropylene copolymers, the lubricant (die NAMA FX-9613 and three em company make --) containing 6 % of the weight of talc, 2 % of the weight of calcium carbonates, and 2 % of the weight of silicon oxide The trademark was blended so that the content of a fluoride vinylidene hexafluoropropylene copolymer might become 0.02 % of the weight, and the polypropylene constituent was prepared. At 250 degrees C, this polypropylene constituent was extruded in the shape of a filament with the extruder, and was cooled and rolled round continuously through the extruded melting filament in the tank. There was no surface deterioration of the obtained filament, it is beautiful appearance and company on the filament of the cooling water based on surface deterioration was not seen, either (example 1). The melt fracture occurred, the front face of a filament carried out surface deterioration, cooling water accompanied to the irregularity based on surface deterioration, and rolling up of a filament of what lubricant was not blended and also carried out filament fabrication like the example 1 on the other hand was not completed (example 1 of comparison).

[0030] Melt-flow-rate 6.3g/10min manufactured with the example 2 and the example of comparison 2 metallocene catalyst, the melting point of 153 degrees C, the crystallization temperature of 112 degrees C, and the gay polypropylene of Mw/Mn2.4 were used, and also it carried out like the example 1. Consequently, what blended lubricant did not have the surface deterioration of a filament, it is beautiful appearance and company on the filament of the cooling water based on surface deterioration was not seen, either (example 2). The front face of a filament carried out surface deterioration, cooling water accompanied to the irregularity based on surface deterioration, and rolling up of a filament of what lubricant was not blended and also carried out filament fabrication like the example 2 on the other hand was not completed (example 2 of comparison).

[0031] Example 3 (manufacture of a metal vacuum evaporation film)

The lubricant (die NAMA FX-9613, three em company make, trademark) which contains 90 % of the weight of fluoride vinylidene hexafluoropropylene copolymers, 6 % of the weight of talc, 2 % of the weight of calcium carbonates, and 2 % of the weight of silicon oxide in melt-flow-rate 1.5g/10min manufactured with the metallocene catalyst, the melting point of 153 degrees C, the crystallization temperature of 114 degrees C, and the gay polypropylene of Mw/Mn2.5 was blended so that the content of a fluoride vinylidene hexafluoropropylene copolymer might become 0.03 % of the weight, and it corned after mixture by the Henschel mixer, and After extending 5 times in the direction which extruded continuously in the shape of a sheet, and was extruded with the extruder using this polypropylene constituent, it extended 5 times at the direction and right angle which were extruded, and the biaxially oriented film was fabricated continuously. The obtained film did not have surface surface deterioration or surface thickness unevenness, and, moreover, its transparent feeling was high.

[0032] The vacuum evaporation of the aluminum was carried out to one side of the above-mentioned film, and the metal vacuum evaporation film was manufactured. The vacuum evaporation of the aluminum layer was carried out uniformly, and the obtained metal vacuum evaporation film did not have a pinhole, either, and was a good metal vacuum evaporation film.

[0033] As example of comparison 1 lubricant, the calcium stearate was blended so that it might become 0.1 % of the weight, and also the metal vacuum evaporation film was manufactured like the example 3. the obtained metal vacuum evaporation film

should become empty in the shape of a pinhole, without carrying out the vacuum evaporation of the aluminum -- *****
occurred

[0034] It carried out like the example 3 except using the lubricant (the Viton free flow 10, IAI Du Pont make, trademark) which contains 99 % of the weight of fluoride vinylidene hexafluoropropylene copolymers, and 1% of barium sulfates instead of example 4 die NAMA FX-9613. The biaxially oriented film before metal vacuum evaporation did not have surface surface deterioration or surface thickness unevenness, and, moreover, its transparent feeling was high. Moreover, the vacuum evaporation of the aluminum layer was carried out uniformly, and the film which deposited aluminum on film one side did not have a pinhole, either, and was a good metal vacuum evaporation film.

[0035] Example 5 (manufacture of a nonwoven fabric)

The lubricant (die NAMA FX-9613, three em company make, trademark) which contains 90 % of the weight of fluoride vinylidene hexafluoropropylene copolymers, 6 % of the weight of talc, 2 % of the weight of calcium carbonates, and 2 % of the weight of silicon oxide in 150 degrees C of melting points and the gay polypropylene of Mw/Mn=2.5 was blended so that the content of a fluoride vinylidene hexafluoropropylene copolymer might become 0.02% of the weight, and it be corned after mixture by the Henschel mixer for mel flow rate (230-degree-C, 2.16kg of loads) 65g manufactured with the metallocene catalyst

[0036] The resin of the shape of this pellet was supplied to the span bond method nonwoven fabric manufacturing installation, and it drew in by the after [spinning] air jet, and was made to deposit on up to a screen belt. Then, through and the nonwoven fabric were obtained to the heat embossing roll. The emitting smoke at the time of spinning was not seen, either, and discoloration of a nonwoven fabric was not observed, either.

[0037] Instead of example of comparison 2 die NAMA FX-9613, the calcium stearate was blended so that it might become 0.1 % of the weight, and also it carried out like the example 5. The smoke component condensed while emitting smoke was accepted near the spinneret at the time of nonwoven fabric manufacture adhered on the filament or the nonwoven fabric, and the good nonwoven fabric was not obtained.

[Translation done.]